

CLAIMS

1. A sensor device, comprising:
a biosensor;
a biosensor enclosure having an interior and an exterior, enclosing the biosensor, the biosensor enclosure having a surface allowing external viewing of the biosensor; and
a separation barrier forming a portion of the biosensor enclosure, the separation barrier having at least one pore allowing fluid communication between the interior and exterior of the biosensor enclosure.
2. The sensor device of claim 1, wherein the separation barrier separates the interior of the biosensor enclosure from a primary container.
3. The sensor device of claim 1, wherein the at least one pore is occluded with a responsive material.
4. The sensor device of claim 3, wherein the responsive material is selected from the group consisting of cellulose, non-cellulosic non-protein polymers, protein polymers, lipid bilayers, and lipid-containing composites.
5. The sensor device of claim 3, wherein the responsive material exhibits a response selected from the group consisting of eroding, dissolving, and changing three-dimensional form.
6. The sensor device of claim 5, wherein the response results from a change selected from the group consisting of a change in solvent concentration, a change in pH, a change in temperature, bacterial action, endotoxin action, and enzymic action.
7. The sensor device of claim 1, wherein the surface allowing external sensing permits optical sensing of the biosensor.

8. The sensor device of claim 1, wherein the biosensor enclosure is partially surrounded by an opaque material.

9. The sensor device of claim 1, wherein the separation barrier is constructed from a material selected from the group consisting of fibril membranes, microporous membranes, and capillary-pore membranes.

10. The sensor device of claim 1, wherein the biosensor is comprised of:
a substrate; and
at least one bioactive response element.

11. The sensor device of claim 10, wherein the bioactive response element is a fluorescent receptor.

12. The sensor device of claim 10, wherein the bioactive response element is a fluorochrome-receptor complex.

13. The sensor device of claim 10, wherein the bioactive response element is a combination of a first fluorescent receptor and a second fluorescent receptor, the second receptor emitting detectable light of a unique wavelength on excitation by fluorescence resonance transfer by the first fluorescent receptor.

14. The sensor device of claim 10, wherein the bioactive response element is a combination of a first receptor and a second receptor, the first receptor binding a cell and the second receptor undergoing a detectable spectral change in response to material released by the cell bound to the first receptor.

15. The sensor device of claim 10, wherein the bioactive response element is a combination of two inhibited fluorescent groups linked by an enzymatic cleavage site, and wherein enzymatic action cleaves the enzymatic cleavage site and releases the fluorescent inhibition.

16. The sensor device of claim 10, wherein the bioactive response element is a combination of a first receptor and a second receptor, the first receptor binding a cell capable of releasing an enzyme and the second receptor being an inhibited fluorescent group wherein the enzyme releases the fluorescent inhibition.

17. The sensor device of claim 2, wherein the primary container need not be opened for analysis.

18. The sensor device of claim 1, wherein the device is capable of aseptic operation.

19. The sensor device of claim 1, wherein the external sensing is remote sensing.